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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,381	12/01/2000	Eiichi Koyama	001573	1263

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EXAMINER

PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
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1771

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DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,381

Applicant(s)

KOYAMA ET AL.

Examiner

Jeremy R. Pierce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) 7-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Amendment B has been filed on April 22, 2003 as Paper No. 5. Claims 1, 3, 4, 6, 17, and 19-21 have been amended. The amendment is sufficient to overcome the claim objections set forth in section 3 of the last Office Action.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3, 4, 6, 17, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoka et al. (JP 2-149481) in view of Tokumitsu et al. (JP 4-45819, with translation provided).

Katoka et al. disclose a ceramic body suitable for use as a filter, made by impregnating a woven base of organic fibers with ceramic slurry and firing the woven base to eliminate the organic material from the ceramic body (page 3). Katoka et al. also disclose it to be acceptable to laminate the woven base impregnated with ceramic feedstock (page 5), and to form it into various shapes. However, Katoka et al. do not disclose a ceramic structure comprising connecting yarns that connect the layers of fabric together. Tokumitsu et al. teach a three-dimensional air-cleaning filter comprising first and second knitted layers held together by connecting yarns (Abstract and Figures 6 and 7). Tokumitsu et al. teach that this structure reduces pressure drop in use and it

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also allows and adsorbent to be placed between the layers. It would have been obvious to one having ordinary skill in the art to form the ceramic body of Katoka et al. so that it comprised first and second layers held together by connecting yarns as taught by Tokumitsu et al., in order to produce a filter that is low in pressure drop against laminar and turbulent flow and can hold adsorbent material between the layers. The presence of the connecting yarns would set the layers at a certain distance apart from one another. With regard to claims 3 and 19, it would be obvious to provide additional layers of ceramic fabric between the inner and outer faces in order to create better filtration, since Katoka et al. disclose laminating multiple fabrics to one another. With regard to claims 4, 6, 20, and 21, Katoka et al. disclose the material to be useful as a catalyst support (page 2).

Response to Arguments

4. Applicant's arguments filed in Paper No. 5 have been fully considered but they are not persuasive.
5. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references

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are directed to filters that support a catalyst, where the catalyst acts as the filtering material. Both references also use textile substrates to support the catalyst. Tokumitsu et al. use the textile to support an absorption agent, such as activated carbon and Katoka et al. use the textile to support a ceramic slurry which also acts to filter out undesirable material. Although Tokumitsu et al. do not disclose depositing ceramic slurry onto their textile, this reference was not used to show this feature in the rejection. Katoka et al. was used to show the teaching of depositing ceramic slurry onto a textile and then baking the material to remove the yarns. Tokumitsu et al. was used to show that a textile arrangement having two layers joined together by connecting yarns is known in the art, and would be obvious to use as the base textile material in Katoka et al. in order to provide the advantages set forth above in the rejection. Katoka et al. suggest the possibility of using a multi-layer woven base before impregnating with ceramic slurry (page 5), so using the teaching of Tokumitsu et al. of a multi-layer woven base with connecting yarns is an obvious modification to provide more area to hold more absorbent material (ceramic slurry in Katoka et al. and active carbon in Tokumitsu et al.).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (703) 605-4243. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeremy R. Pierce
Examiner
Art Unit 1771

June 25, 2003



ELIZABETH M. COLE
PRIMARY EXAMINER